

**QoS SCHEDULER AND METHOD FOR IMPLEMENTING QUALITY OF  
SERVICE ANTICIPATING THE END OF A CHAIN OF FLOWS**

Abstract of the Disclosure

5 A QoS scheduler, scheduling method, and computer program product  
are provided for implementing Quality-of-Service (QoS) scheduling with  
detecting and anticipating the end of a chain of flows. A first indicator is  
provided for indicating a number of flows being chained to a physical entry.  
A second indicator is provided for indicating when the first indicator has  
saturated. The second indicator is set active for a flow whose chaining  
10 causes the first indicator to saturate. During de-chaining of the flows from  
the physical entry, the second indicator is used to determine when the first  
indicator becomes accurate to begin decrementing the first indicator. The  
first indicator is decremented for detecting the end of the chain of flows.  
Responsive to the first indicator being not saturated, the first indicator is  
15 used for anticipating the end of a chain of flows. The first indicator and the  
second indicator include a predefined number of bits or n-bits. The first  
indicator includes n-1 bits stored in a physical entry and the second indicator  
includes 1-bit stored in a chained link list.